Remarks/Arguments

Status of the Claims

Claims 1-6, 8-16, 18-20, and 30-39 are pending in the application for examination on the merits. Claims 21-29 and 40-41 have been withdrawn from consideration as being drawn to non-elected subject matter. Claims 1, 11, 30, and 31 have been amended herein. Claims 1-6, 8-16, 18-20 and 30-39 stand rejected. For the reasons set forth below, Applicant submits that each of the pending claims is patentably distinct from the cited prior art and in condition for allowance. Reconsideration of the claims is therefore respectfully requested.

Claim Rejections - 35 U.S.C. §§ 102 and 103

Claims 1-6, 8-16, 18-20, 30-31, 34-36, and 38 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent Application Publication No. 2005/0289617 by Safadi et al. ("Safadi"); and claims 32, 33, 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Safadi. As discussed below, Applicant respectfully traverses these rejections.

An aspect of the independent claims of the present application relates to decoding an audio/video stream from multiple sources (e.g., a television source and an IP source) using the same hardware decoder. Hardware decoders provide relatively high frame rates when compared to software decoding by general purpose microprocessors.

As stated on pages 2 and 3 of the present application, typical set-top-boxes (STBs) include DOCSIS cable modems to provide Internet access. By way of contrast

with the present application, such STBs typically include a central processing unit (CPU) to provide software decoding of IP-based media streams, which limits the frame rate of the displayed media stream and burdens the STB's CPU. As discussed in detail below, Applicants maintains that Safadi does not teach using the same hardware decoder to decode audio/video streams from both a television source and an IP source. Further, Safadi does not teach using a separate stream selector to send either a television signal or IP encapsulated data to the hardware decoder.

1. <u>Safadi does not teach a stream selector that is in addition to a communication bus and a processor.</u>

As shown in FIG. 4 of the present application (reproduced below), the claimed invention includes, among other things, a communication bus 404, a processor (CPU) 122, **and** a stream selector 304.
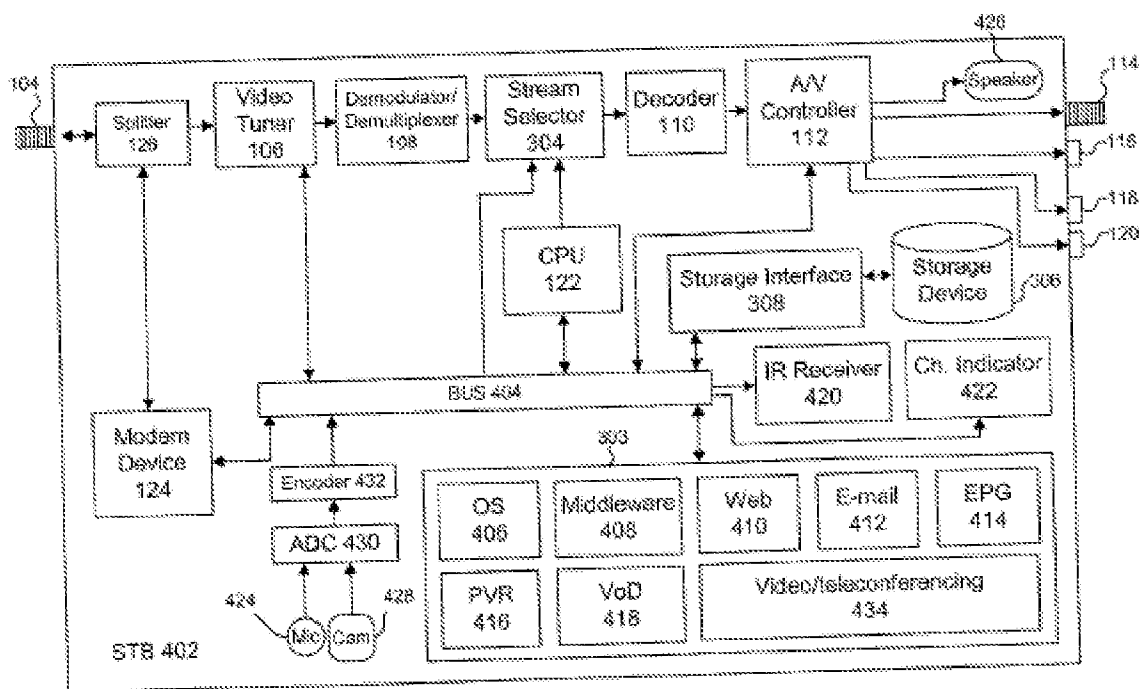

FIG. 4

Thus, the claimed invention includes *a stream selector 304 that is separate from, and in addition to, the communication bus 404 and/or the CPU 122*. This allows IP encapsulated data from the second receiver (*e.g.*, the modem device 124) to be communicated through the bus 404 on its way to the hardware decoder 110. However, having a stream selector 304 that is separate from the bus 404 advantageously avoids the complexity and high-traffic use of the bus 404 when processing an audio/video stream comprising a normal television signal from the first receiver (*e.g.*, along the path of the video tuner 106 and the demodulator/demultiplexer 108).

As shown in FIG. 1 of Safadi (reproduced below), Safadi teaches a CPU 104 and a system bus 112, but completely *fails to teach a separate stream selector*. Page 3 of the Office Action asserts that "Safadi inherently teaches or suggests a stream selector." See also, page 4 of the Office Action (asserting that Safadi's stream selector consists of the CPU 104 in combination with the system bus 112). Applicants respectfully disagree, however, that the bus communications taught by Safadi anticipate the additional elements of the amended claims.
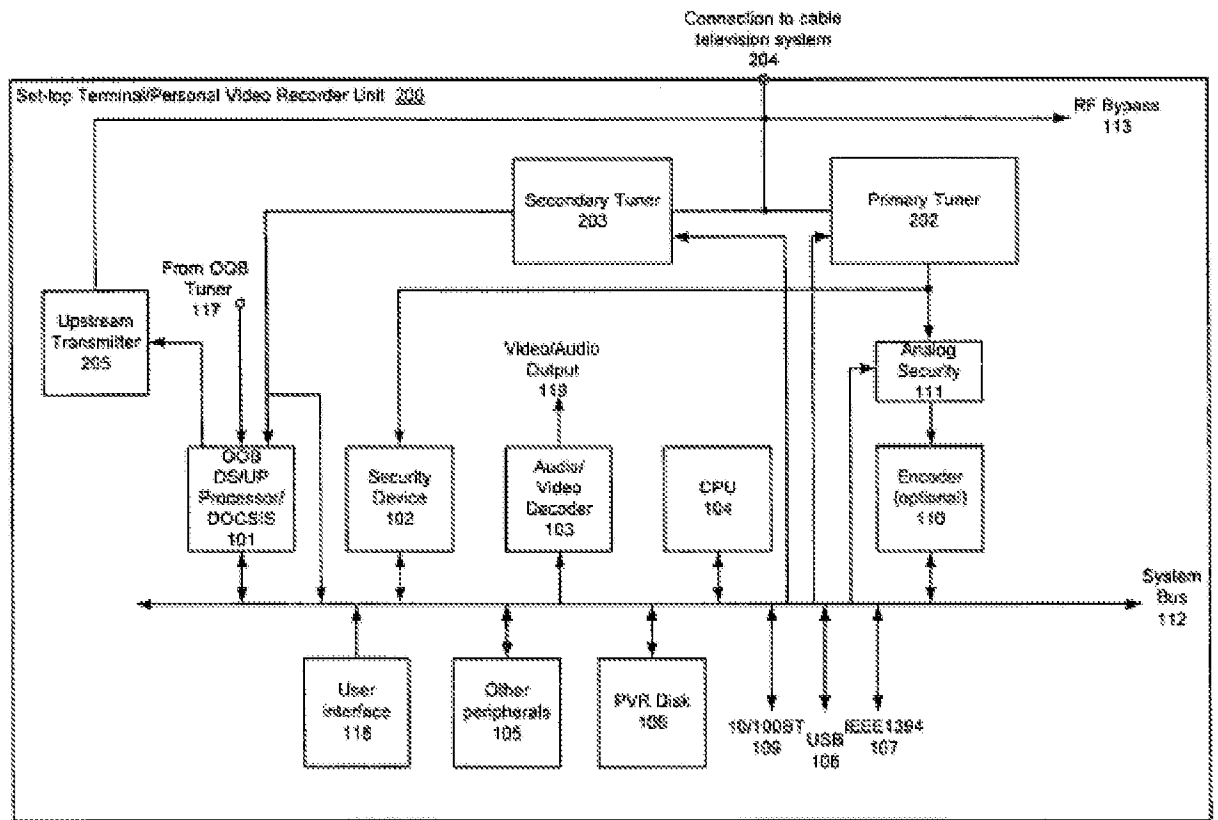
Fig. 1

While Safadi may inherently teach using the CPU 104 and the system bus 112 to communicate data between various system elements, Safadi does not teach the details of the amended claims that require at least three elements to be present, namely, a processor, a communication bus, and a separate stream selector. *Providing only two of these three elements (the CPU 104 and the system bus 112) does not satisfy the requirements for anticipation.* See M.P.E.P. § 2131 (stating that in order to anticipate a claim, a prior art reference must <u>identically teach every element</u> of the claim); see also, *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (stating that the "identical invention must be shown in as complete detail as is contained in the ... claim").

Further, because the input into the audio/video decoder 103 in Safadi is only possible through the system bus 112, *audio/video signals from the primary tuner 202 must share the system bus 112 with signals from the secondary tuner 203.* This greatly increases the traffic on the system bus 112 and the overall complexity of the system taught by Safadi.

2. Safadi does not teach a stream selector having a first input directly coupled to a first stream receiver such that the first audio/video stream does not pass through the communication bus, a second input indirectly coupled to a second stream receiver through a bus, and a select line coupled to a processor.

As shown in FIG. 4 of the present application, the claimed invention includes a stream selector 304 that receives audio/video streams from two different paths. The first path includes a first receiver (*e.g.*, video tuner 106 and demodulator/demultiplexer 108) coupled *directly* to a first input of the stream selector 304 such that the first audio/video stream does not pass through the bus 404. The second path includes a second receiver (e.g., modem device 124) coupled indirectly to a second input of the stream selector 304 through the bus 404. The stream selector 304 also has a select line coupled to the processor 122, and an output coupled *directly* to the hardware decoder 110.

Contrary to page 3 of the Office Action, Applicants respectfully submit that *Safadi does not teach any of these structural elements*. For example, page 3 of the Office Action asserts that Safadi teaches "a second input (output of modem 101) indirectly coupled to a second stream receiver (203) through a bus (communication bus through the modem)." But, based on the Examiner's assertion that the system bus 112 is the stream selector, this statement necessarily implies that the output from the secondary

tuner 203 travels through the system bus 112 before going through the DOCSIS modem 101 to become an input once again to the system bus 112, which is completely inconsistent with what is shown in FIG. 1 of Safadi. Rather FIG. 1 shows that the output from the secondary tuner 203 goes directly to the DOCSIS modem 101 without first going through the bus 112. In other words, the second input to the bus 112 does not first go through the bus 112.

3.   Safadi teaches using a separate processor to "transcode" IP-based information from its *original* compressed state as provided by the second source.

Page 2 of the Office Action asserts that Safadi teaches using the decoder 103 to decode the selected output from the stream selector so as to convert the television signal and the IP encapsulated audio/video data from a compressed state as provided by the first source and the second source, respectively. (Citing paragraph 42, lines 10-11; paragraph 44, and paragraph 47 of Safadi). Applicants respectfully disagree. While these cited portions of Safadi indicate the different operating modes *at some point in the processing* when both tuners 202, 203 are used, they are silent as to how the signal from the secondary tuner 203 is converted from its originally compressed state. For this information, the entire Safadi reference must be considered as a whole.

Safadi teaches in paragraph [0020] that the "recorder may also include *co-processors (e.g., encoding and decoding devices)*. The central processing unit... selectively controls the encoding, *transcoding*," and other functions. (Emphasis added). See also, paragraph [0035], lines 17-24 (indicating that one of the functions of the central processing unit (104) is for "transcoding streaming audiovisual data").

Paragraph [0064] of Safadi provides an explanation for what is meant by transcoding, and states in part (emphasis added):

> Another function performed by the personal versatile recorder of the present invention is called transcoding. **When audiovisual programming is streamed** to the recorder from, for example, the **internet**, the data of the audiovisual programming is compressed to facilitate transmission. The data must be **decompressed for optimal display** and compressed for storage on the disk (106). The compression and decompression of multimedia data is **_performed by the central processing unit (104)_** and is known as transcoding.

Thus, Safadi teaches that the **originally compressed state** of the streaming audiovisual programming (e.g., in the format in which it is received through the internet) is decoded by the central processing unit (CPU) 104 for display and storage. Thus, Safadi fails to teach or suggest "wherein the hardware decoder is configured to decode the selected output from the stream selector so as to **convert the television signal and the IP encapsulated audio/video data from an _originally_ compressed state as provided by the first source and the second source, respectively**," as recited, among other things, in amended claim 1. (Emphasis added). Similar limitations are also found in the other independent claims.

Thus, Applicant respectfully requests that the rejections based on Safadi be withdrawn.

Conclusion

Based at least on the foregoing, the independent claims are allowable over the art that has been cited and applied by the Examiner. Further, the claims that depend therefrom are also allowable for at least the same reasons. Applicants therefore request withdrawal of the rejections and allowance of the application at an early date.

Respectfully submitted,

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